

## WHAT IS CLAIMED IS:

- 1        1.        A method of integrating telephony function with security and guidance features  
2        on an Internet appliance comprising the steps of:  
3                selecting a communication access number using a selection means, said  
4        communication access number operable to access a communication link via said  
5        Internet appliance;  
6                alerting a user of said Internet appliance when an attempt is made to select said  
7        communication link via a dialing action of said Internet appliance using said  
8        communication access number; and  
9                receiving an authorization for said dialing action by said user of said Internet  
10       appliance.  
  
1        2.        The method of claim 1 wherein said authorization comprises the sub steps of:  
2                prompting said user to enter a user personal identification means (PIM) in  
3        response to selecting said communication access number;  
4                initiating a pre-determined security protocol to retrieve a corresponding secure  
5        PIM for comparison;  
6                correlating said user personal identification means with said secure PIM;  
7                authorizing or rejecting said dialing action in response to said correlation;  
  
8                retrieving secure device driver code for executing said dialing action using said  
9        security protocol in response to said authorization;  
10               displaying, if said dialing action is authorized, a connectivity cost alert for said  
11       communication link; and

12                   executing said dialing action using said device driver code for said  
13                   communication link in response to said authorization and a user response to said  
14                   connectivity cost alert.

1           3.       The method of claim 1, further comprising the step of:  
2                   using said security protocol for encrypting and decrypting information  
3                   transmitted on said communication link in response to authorizing said dialing action  
4                   for said communication link.

1           4.       The method of claim 1, wherein said security protocol is a Public/Private key  
2                   encryption protocol.

1           5.       The method of claim 1, wherein said PIM is used to grant or block access to  
2                   certain area or country telephony codes.

1           6.       The method of claim 1, further comprising the step of:  
2                   matching said communication access number with an actual system entered  
3                   communication access number.

1           7.       The method of claim 1, further comprising the steps of:  
2                   monitoring an incoming call for a caller ID; and  
3                   answering and routing said incoming call to a receiving device on the basis of  
4                   said incoming telephone number.

1 8. The method of claim 1, further comprising the step of:  
2 using a built-in key escrow function to notify a trusted server of a current  
3 dynamic host configuration protocol (DHCP) assigned IP address along with a key  
4 indicating authenticity of transmission so that voice over IP services between devices  
5 and a web page server lookup may be performed in a DHCP environment without  
6 side-channel communication for call or web reference look-up.

1 9. The method of claim 1, wherein activating said selected communication access  
2 number comprises selecting said communication access number from a displayed  
3 Internet web page hot spot.

1 10. The method of claim 1, wherein said communication access number is selected  
2 using an actual or virtual keypad of said Internet appliance.

1 11. The method of claim 1, wherein said communication link comprises  
2 a non-concurrent shared dial-up public switched telephone network (PSTN)  
3 connection between a telephone connection and an Internet connection.

1 12. The method of claim 1, wherein said communication link has separate  
2 connections for an Internet connection and a telephone connection.

1 13. The method of claim 1, wherein said communication link comprises a  
2 concurrent communication link for an Internet and a telephone connection.

1 14. A system for integrating telephony function with security and guidance features  
2 on an Internet appliance (IA):

3 one or more personal identification means (PIM) input units coupled to a  
4 system bus in said ICA, said PIM input units operable to generate unique PIM signals;

5 a security protocol circuit operable to encrypt, decrypt, store and retrieve said  
6 PIM signals and device driver code;

7 a PIM verification circuit operable to receive said PIM signals and compare  
8 them to secure predetermined PIM signals, said PIM verification circuit generating a  
9 verification signal;

10 one or more Modems coupled to a dialing action controller and to  
11 communication lines; said Modems operable to send and receive communication data;  
12 and

13 a dialing action controller (DAC) coupled to said system bus and said Modems,  
14 said DAC operable receive a dialing action request and to alert a user of said dialing  
15 action and to enable or disable said dialing action to said Modems in response to said  
16 verification signal and a user signal.

1 15. The system of claim 13, wherein said authorization unit comprises:

2 a smart card reader;

3 a biometric input unit;

4 a personal identification number input unit; and

5 a voice recognition input unit,

1 16. The system of claim 13, wherein said Modem comprises:

2 a digital subscriber line (DSL) Modem;

- 1 17. The system of claim 13, wherein said Modem comprises:  
2 a wireless cellular modem;
- 1 18. The system of claim 13, wherein said Modem comprises:  
2 a wireless personal communication system (PCS) modem;
- 1 19. The system of claim 13, wherein said Modem comprises:  
2 a cable Modem.
- 1 20. The system of claim 13, wherein said Modem comprises a public subscriber  
2 telephone network (PSTN) Modem.
- 1 21. The system of claim 13, wherein said DAC alerts said user of a dialing action  
2 by display on a user display screen coupled to said IA.
- 1 22. The system of claim 13, wherein said DAC retrieves a connectivity cost and  
2 alerts said user of a connectivity cost associated with a requested dialing action if said  
3 dialing action is authorized.
- 1 23. The system of claim 13, wherein said user signal is a response by said user to  
2 said connectivity cost alert for said dialing action.
- 1 24. The system of claim 13, wherein said user is given an option of communicating  
2 on an established communication link in response to an authorized and enabled dialing  
3 action using said security protocol.

1 25. The system of claim 13, wherein said DAC uses a built-in key escrow function  
2 to notify a trusted server of a current dynamic host configuration protocol (DHCP)  
3 assigned IP address along with a key indicating authenticity of transmission so that  
4 voice over IP services between devices and a web page server lookup may be  
5 performed in a DHCP environment without side-channel communication for call or  
6 web reference look-up.

1 26. The system of claim 13, wherein said dialing action request comprises:  
2 entering a communication access number via a keyboard keypad, a virtual  
3 display keypad, or by clicking a "hot spot" on a Web page.

1 27. The system of claim 13, wherein said connectivity cost alert notifies a user of  
2 an actual toll call cost for a communication link corresponding to said authorized and  
3 enabled dialing action.

1 28. The system of claim 13, wherein said user is alerted of said dialing action  
2 whether said dialing action was initiated locally or remote by another user.

1 29. The system of claim 13, wherein DAC monitors incoming communication  
2 access numbers and directs communication to a answering or recording device or  
3 forwards the communication to another communication link in response to comparing  
4 said incoming communication access numbers to a predetermined, stored  
5 communication access numbers list.

1        30.    An Internet appliance, comprising:  
2            a central processing unit (CPU);  
3            a read only memory (ROM);  
4            a random access memory (RAM);  
5            a user interface adapter coupled to a keyboard and a mouse;  
6            a display interface adapter coupled to a user display;  
7            an I/O interface adapter;  
8            a system bus;  
9            a communication adapter; and  
10          a security processor unit,  
11          said security processor unit further comprising:  
12                one or more personal identification means (PIM) input units coupled to  
13                a system bus in said ICA, said PIM input units operable to generate  
14                unique PIM signals;  
15                a security protocol circuit operable to encrypt, decrypt, store and  
16                retrieve said PIM signals and device driver code;  
17                a PIM verification circuit, said PIM verification circuit operable to  
18                receive said PIM signals and compare them to secure predetermined  
19                PIM signals, said PIM verification circuit generating a verification  
20                signal;  
21                one or more Modems coupled to a dialing action controller and to  
22                communication lines, said Modems operable to send and receive  
23                communication data; and  
24                a dialing action controller (DAC) coupled to said system bus and said  
25                Modems, said DAC operable receive a dialing action request and to  
26                alert a user of said dialing action and to enable or disable said dialing

27                                action to said Modems in response to said verification signal and a user  
28                                signal.

1            31.    The Internet appliance of claim 29, wherein said PIM input unit comprises:  
2                                a smart card reader;  
3                                a biometric input unit;  
4                                a personal identification number input unit; and  
5                                a voice recognition input unit

1            32.    The Internet appliance of claim 29, wherein said Modem comprises:  
2                                a digital subscriber line (DSL) Modem.

1            33.    The Internet appliance of claim 29, wherein said Modem comprises:  
2                                a wireless cellular modem.

1            34.    The Internet appliance of claim 29, wherein said Modem comprises:  
2                                a wireless personal communication system (PCS) modem.

1            35.    The Internet appliance of claim 29, wherein said Modem comprises  
2                                a cable Modem.

1            36.    The Internet appliance of claim 29, wherein said Modem comprises a public  
2                                subscriber telephone network (PSTN) Modem.

1            37.    The Internet appliance of claim 29, wherein said DAC alerts said user of a  
2                                dialing action by display on a user display screen coupled to said IA.



1 38. The Internet appliance of claim 29, wherein said DAC retrieves a connectivity  
2 cost and alerts said user of a connectivity cost associated with a requested dialing  
3 action if said dialing action is authorized.

1 39. The Internet appliance of claim 29, wherein said user signal is a response by  
2 said user to said connectivity cost alert for said dialing action.

1 40. The Internet appliance of claim 29, wherein said user is given an option of  
2 communicating on an established communication link in response to an authorized and  
3 enabled dialing action using data encryption.

1 41. The Internet appliance of claim 29, wherein said DAC uses a built-in key  
2 escrow function to notify a trusted server of a current dynamic host configuration  
3 protocol (DHCP) assigned IP address along with a key indicating authenticity of  
4 transmission so that voice over IP services between devices and a web page server  
5 lookup may be performed in a DHCP environment without side-channel  
6 communication for call or web reference look-up.

1 42. The Internet appliance of claim 29, wherein said dialing action request  
2 comprises:  
3 entering a communication access number via a keyboard keypad, a virtual  
4 display keypad, or by clicking a "hot spot" on a Web page.

1 43. The Internet appliance of claim 29, wherein said connectivity cost alert notifies  
2 a user of an actual toll call cost for a communication link corresponding to said  
3 authorized and enabled dialing action.

1        44.     The Internet appliance of claim 29, wherein said user is alerted of said dialing  
2        action whether said dialing action was initiated locally or remote by another user.

1        45.     The Internet appliance of claim 29, wherein DAC monitors incoming  
2        communication access numbers and directs communication to a answering or  
3        recording device or forwards the communication to another communication link in  
4        response to comparing said incoming communication access numbers to a  
5        predetermined, stored communication access numbers list.